

the convenience of the user, the added text is set forth as follows:

**§ 571.5 Matter incorporated by reference**

\* \* \* \* \*

(10) *Child Restraint Systems Seat Assembly Drawing Package*. Copies may be obtained by contacting: Leet-Melbrook, 18810 Woodfield Road, Gaithersburg, MD, 20879, telephone (301) 670-0090.

\* \* \* \* \*

**§ 571.7 Applicability.**

(a) *General*. Except as provided in paragraphs (c) and (d) of this section, each standard set forth in subpart B of this part applies according to its terms to all motor vehicles or items of motor vehicle equipment the manufacture of which is completed on or after the effective date of the standard.

(b) [Reserved]

(c) *Military vehicles*. No standard applies to a vehicle or item of equipment manufactured for, and sold directly to, the Armed Forces of the United States in conformity with contractual specifications.

(d) *Export*. No standard applies to a vehicle or item of equipment in the circumstances provided in section 108(b)(5) of the Act (15 U.S.C. 1397 (b)(5)).

(e) *Combining new and used components*. When a new cab is used in the assembly of a truck, the truck will be considered newly manufactured for purposes of paragraph (a) of this section, the application of the requirements of this chapter, and the Act, unless the engine, transmission, and drive axle(s) (as a minimum) of the assembled vehicle are not new, and at least two of these components were taken from the same vehicle.

(f) *Combining new and used components in trailer manufacture*. When new materials are used in the assembly of a trailer, the trailer will be considered newly manufactured for purposes of paragraph (a) of this section, the application of the requirements of this chapter, and the Act, unless, at a minimum, the trailer running gear assembly (axle(s), wheels, braking and suspension) is not new, and was taken from an existing trailer—

(1) Whose identity is continued in the reassembled vehicle with respect to the Vehicle Identification Number; and

(2) That is owned or leased by the user of the reassembled vehicle.

[33 FR 19703, Dec. 25, 1968. Redesignated at 35 FR 5118, Mar. 26, 1970, and amended at 36 FR 7855, Apr. 27, 1971; 38 FR 12808, May 16, 1973; 40 FR 49341, Oct. 22, 1975; 41 FR 27074, July 1, 1976]

**§ 571.8 Effective date.**

Notwithstanding the effective date provisions of the motor vehicle safety standards in this part, the effective date of any standard or amendment of a standard issued after September 1, 1971, to which firefighting vehicles must conform shall be, with respect to such vehicles, either 2 years after the date on which such standard or amendment is published in the rules and regulations section of the FEDERAL REGISTER, or the effective date specified in the notice, whichever is later, except as such standard or amendment may otherwise specifically provide with respect to firefighting vehicles.

[36 FR 13927, July 28, 1971]

**§ 571.9 Separability.**

If any standard established in this part or its application to any person or circumstance is held invalid, the remainder of the part and the application of that standard to other persons or circumstances is not affected thereby.

[33 FR 19705, Dec. 25, 1968. Redesignated at 35 FR 5118, Mar. 26, 1970]

**Subpart B—Federal Motor Vehicle Safety Standards**

SOURCE: 36 FR 22902, Dec. 2, 1971, unless otherwise noted.

**§ 571.101 Standard No. 101; Controls and displays.**

S1. *Scope*. This standard specifies requirements for the location, identification, and illumination of motor vehicle controls and displays.

S2. *Purpose*. The purpose of this standard is to ensure the accessibility and visibility of motor vehicle controls and displays and to facilitate their selection under daylight and nighttime

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conditions, in order to reduce the safety hazards caused by the diversion of the driver's attention from the driving task, and by mistakes in selecting controls.

**S3. Application.** This standard applies to passenger cars, multipurpose passenger vehicles, trucks, and buses.

### **S4. Definitions.**

**Telltale** means a display that indicates the actuation of a device, a correct or defective functioning or condition, or a failure to function.

**Gauge** means a display that is listed in S5.1 or in Table 2 and is not a telltale.

**S5 Requirements.** Each passenger car, multipurpose passenger vehicle, truck and bus manufactured with any control listed in S5.1 or in column 1 of Table 1, and each passenger car, multipurpose passenger vehicle and truck or bus less than 4,536 kg. GVWR with any display listed in S5.1 or in column 1 of Table 2, shall meet the requirements of this standard for the location, identification, and illumination of such control or display.

**S5.1 Location.** Under the conditions of S6, each of the following controls that is furnished shall be operable by the driver and each of the following displays that is furnished shall be visible to the driver. Under the conditions of S6, telltales are considered visible when activated.

### HAND-OPERATED CONTROLS

- (a) Steering wheel.
- (b) Horn.
- (c) Ignition.
- (d) Headlamp.
- (e) Taillamp.
- (f) Turn signal.
- (g) Illumination intensity.
- (h) Windshield wiper.
- (i) Windshield washer.
- (j) Manual transmission shift lever, except transfer case.
- (k) Windshield defrosting and defogging system.
- (l) Rear window defrosting and defogging system.
- (m) Manual choke.
- (n) Driver's sun visor.
- (o) Automatic vehicle speed system.
- (p) Highbeam.
- (q) Hazard warning signal.
- (r) Clearance lamps.
- (s) Hand throttle.
- (t) Identification lamps.

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### FOOT-OPERATED CONTROLS

- (a) Service brake.
- (b) Accelerator.
- (c) Clutch.
- (d) Highbeam.
- (e) Windshield washer.
- (f) Windshield wiper.

### DISPLAYS

- (a) Speedometer.
- (b) Turn signal.
- (c) Gear position.
- (d) Brake failure warning.
- (e) Fuel.
- (f) Engine coolant temperature.
- (g) Oil.
- (h) Highbeam.
- (i) Electrical charge.

### **S5.2 Identification.**

**S5.2.1** Vehicle controls shall be identified as follows:

(a) Except as specified in S5.2.1(b), any hand-operated control listed in column 1 of Table 1 that has a symbol designated for it in column 3 of that table shall be identified by either the symbol designated in column 3 (or symbol substantially similar in form to that shown in column 3) or the word or abbreviation shown in column 2 of that table. Any such control for which no symbol is shown in Table 1 shall be identified by the word or abbreviation shown in column 2. Words or symbols in addition to the required symbol, word or abbreviation may be used at the manufacturer's discretion for the purpose of clarity. Any such control for which column 2 of Table 1 and/or column 3 of Table 1 specifies "Mfr. Option" shall be identified by the manufacturer's choice of a symbol, word or abbreviation, as indicated by that specification in column 2 and/or column 3. The identification shall be placed on or adjacent to the control. The identification shall, under the conditions of S6, be visible to the driver and, except as provided in S5.2.1.1, S5.2.1.2, and S5.2.1.3, appear to the driver perceptually upright.

(b) S5.2.1(a) does not apply to a turn signal control which is operated in a plane essentially parallel to the face plane of the steering wheel in its normal driving position and which is located on the left side of the steering column so that it is the control on that side of the column nearest to the steering wheel face plane.

S5.2.1.1 The identification of the following need not appear to the driver perceptually upright:

(a) A master lighting switch or headlamp and tail lamp control that adjusts control and display illumination by means of rotation, or any other rotating control that does not have an off position.

(b) A horn control.

S5.2.1.2 The identification of a rotating control other than one described by S5.2.1.1 shall appear to the driver perceptually upright when the control is in the off position.

S5.2.1.3 The identification of an automatic vehicle speed control located on the steering wheel, including the steering wheel hub and spokes, need not appear to the driver perceptually upright except when the vehicle, aligned to the manufacturer's specifications, has its wheels positioned for the vehicle to travel in a straight forward direction.

S5.2.2 Identification shall be provided for each function of any automatic vehicle speed system control and any heating and air conditioning system control, and for the extreme positions of any such control that regulates a function over a quantitative range. If this identification is not specified in Table 1 or 2, it shall be in word or symbol form unless color coding is used. If color coding is used to identify the extreme positions of a temperature control, the hot extreme shall be identified by the color red and the cold extreme by the color blue.

*Example 1.* A slide lever controls the temperature of the air in the vehicle heating system over a continuous range, from no heat to maximum heat. Since the control regulates a single function over a quantitative range, only the extreme positions require identification.

*Example 2.* A switch has three positions, for heat, defrost, and air conditioning. Since each position regulates a different function, each position must be identified.

S5.2.3 Except for the Low Tire Pressure Telltale (that does not identify which tire has low pressure), any display located within the passenger compartment and listed in column 1 of Table 2 that has a symbol designated in column 4 of that table shall be identified by either the symbol designated in column 4 (or symbol substantially

similar in form to that shown in column 4) or the word or abbreviation shown in column 3. The Low Tire Pressure Telltale (that does not identify which tire has low tire pressure) shall be identified by either the symbol designated in column 4, or the symbol and the words designated in column 4 and column 3, respectively. Additional words or symbols may be used at the manufacturer's discretion for the purpose of clarity. Any telltales used in conjunction with a gauge need not be identified. The identification required or permitted by this section shall be placed on or adjacent to the display that it identifies. The identification of any display shall, under the conditions of S6, be visible to the driver and appear to the driver perceptually upright.

#### S5.3 Illumination.

S5.3.1 Except for foot-operated controls or hand-operated controls mounted upon the floor, floor console, or steering column, or in the windshield header area, the identification required by S5.2.1 or S5.2.2 of any control listed in column 1 of Table 1 and accompanied by the word "yes" in the corresponding space in column 4 shall be capable of being illuminated whenever the headlights are activated. However, control identification for a heating and air-conditioning system need not be illuminated if the system does not direct air directly upon windshield. If a gauge is listed in column 1 of Table 2 and accompanied by the word "yes" in column 5, then the gauge and its identification required by S5.2.3 shall be illuminated whenever the ignition switch and/or the headlamps are activated. Controls, gauges, and their identifications need not be illuminated when the headlamps are being flashed. A telltale shall not emit light except when identifying the malfunction or vehicle condition for whose indication it is designed or during a bulb check upon vehicle starting.

S5.3.2. Each telltale shall be of the color shown in column 2 of Table 2. The identification of each telltale shall be in a color that contrasts with the background.

S5.3.3 (a) Means shall be provided for making controls, gauges, and the identification of those items visible to the driver under all driving conditions.

(b) The means for providing the required visibility—

(1) Shall be adjustable to provide at least two levels of brightness, one of which is barely discernible to a driver who has adapted to dark ambient roadway conditions.

(2) May be operable manually or automatically, and

(3) May have levels of brightness at which those items and identification are not visible.

(c) If the level of brightness is adjusted by automatic means to a point where those items or their identification are not visible to the driver, a means shall be provided to enable the driver to restore visibility.

S5.3.4 (a) Means shall be provided that are capable of making telltales and their identification visible to the driver under all driving conditions.

(b) The means for providing the required visibility may be adjustable manually or automatically, except that the telltales and identification for brakes, highbeams, turn signals, and safety belts may not be adjustable under any driving condition to a level that is invisible.

S5.3.5 Any source of illumination within the passenger compartment which is forward of a transverse vertical plane 110 mm rearward of the manikin “H” point with the driver’s seat in its rearmost driving position, which is not used for the controls and displays regulated by this standard, which is not a telltale, and which is capable of being illuminated while the vehicle is in motion, shall have either (1) light intensity which is manually or

automatically adjustable to provide at least two levels of brightness, (2) a single intensity that is barely discernible to a driver who has adapted to dark ambient roadway conditions, or (3) a means of being turned off. This requirement does not apply to buses that are normally operated with the passenger compartment illuminated.

S5.4 A common space may be used to display messages from any sources, subject to the following requirements:

(a) The telltales for the brake, high beam, and turn signal, and the safety belt telltale required by S4.5.3.3 of Standard No. 208 may not be shown on the common space.

(b) Except as provided in S5.4(e), the telltales listed in Table 2 shall be displayed at the initiation of any underlying condition.

(c) When the underlying condition exists for actuation of two or more messages, the messages shall be either—

(1) Repeated automatically in sequence, or













(2) Indicated by visible means and capable of being selected by the driver for viewing.

(d) Messages may be cancellable automatically or by the driver.

(e) The safety belt telltale must be displayed and visible during the time specified in S7.3 of Standard No. 208.

S6. *Conditions.* The driver is restrained by the crash protection equipment installed in accordance with the requirements of §571.208 of this part (Standard No. 208), adjusted in accordance with the manufacturer’s instructions.

**Table 1**  
**Identification and Illustration of Controls**

Column 1	Column 2	Column 3	Column 4
<i>Hand Operated Controls</i>	<i>Identifying Words or Abbreviation</i>	<i>Identifying Symbol</i>	<i>Illumination</i>
Master Lighting Switch	Lights	 <sup>5</sup>	_____
Headlamps and Tail Lamps	(Manufacturer Option) <sup>2</sup>	(Manufacturer Option) <sup>2</sup>	_____
Horn	Horn	 <sup>4</sup>	_____
Turn Signal	_____	 <sup>3</sup> <sup>5</sup>	_____
Hazard Warning Signal	Hazard	 <sup>5</sup>	Yes
Windshield Wiping System	Wiper or Wipe		Yes
Windshield Washing System	Washer or Wash		Yes
Windshield Washing and Wiping Combined	Wash-Wipe or Washer-Wiper		Yes
Heating and or Air Conditioning Fan	Fan	 or 	Yes
Windshield Defrosting and Defogging System	Defrost, Defog or Def.		Yes
Rear Window Defrosting and Defogging System	Rear Defrost, Rear Defog, Rear Def., or R-Def.		Yes
Identification, Side Marker and or Clearance Lamps	Marker Lamps or MK Lps	 <sup>2</sup> <sup>5</sup>	Yes
Manual Choke	Choke	_____	_____
Engine Start	Engine Start <sup>1</sup>	_____	_____
Engine Stop	Engine Stop <sup>1</sup>	_____	Yes
Hand Throttle	Throttle	_____	_____
Automatic Vehicle Speed	(Manufacturer Option)	_____	Yes
Heating and Air Conditioning System	(Manufacturer Option)	(Manufacturer Option)	Yes

<sup>1</sup> Use when engine control is separate from the key locking system.











<sup>2</sup> Separate identification not required if controlled by master lighting switch.

<sup>3</sup> The pair of arrows is a single symbol. When the controls for left and right turn operate independently, however, the two arrows may be considered separate symbols and be spaced accordingly.

<sup>4</sup> Identification not required for vehicles with a GVWR greater than 4536 kg; or for narrow ring-type controls.



<sup>5</sup> Framed areas may be filled.

**Table 2**  
**Identification and Illustration of Displays**

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>	<b>Column 5</b>
<i>Display</i>	<i>Telltale Color</i>	<i>Identifying Words or Abbreviation</i>	<i>Identifying Symbol</i>	<i>Illumination</i>
Turn Signal Telltale	Green	Also see FMVSS 108	 1, 5	_____
Hazard Warning Telltale		Also see FMVSS 108	 2, 5	_____
Seat Belt Telltale	_____ 4	Fasten Belts or Fasten Seat Belts Also see FMVSS 208	 or 	_____
Fuel Level Telltale Gauge	_____	Fuel	 or 	_____ Yes
Oil Pressure Telltale Gauge	_____	Oil		_____ Yes
Coolant Temperature Telltale Gauge	_____	Temp		_____ Yes
Electrical Charge Telltale Gauge	_____	Volts, Charge or Amp		_____ Yes
Highbeam Telltale	Blue or Green 3	Also see FMVSS 108	 5	_____

1. The pair of arrows is a single symbol. When the indicator for left and right turn operate independently, however, the two arrows will be considered separate symbols and may be spaced accordingly.
2. Not required when arrows of turn signal tell-tales that otherwise operate independently flash simultaneously as hazard warning tell-tale.
3. Red can be red-orange. Blue can be blue-green.
4. The color of the telltale required by S4.5.3.3 of Standard No. 208 is red; the color of the telltale required by S7.3 of Standard No. 208 is not specified.
5. Framed areas may be filled.

Table 2 (continued)

Column 1 <i>Display</i>	Column 2 <i>Telltale Color</i>	Column 3 <i>Identifying Words or Abbreviation</i>	Column 4 <i>Identifying Symbol</i>	Column 5 <i>Illumination</i>
Brake System 8	Red 3	Brake, Also see FMVSS 105 and 135	_____	_____
Malfunction in Anti-lock or	Yellow	Antilock, Anti-lock or ABS. Also see FMVSS 105 and 135	_____	_____
Variable Brake Proportioning System 8	Yellow	Brake Proportioning, Also see FMVSS 135	_____	_____
Parking Brake Applied 8	Red 3	Park or Parking Brake, Also see FMVSS 105 and 135	_____	_____
Malfunction in Anti-lock	Yellow	ABS, or Antilock; Trailer ABS, or Trailer Antilock, Also see FMVSS 121	_____	_____
Brake Air Pressure Position Telltale	_____	Brake Air, Also see FMVSS 121	_____	_____
Speedometer	_____	MPH, or MPH and km/h 7	_____	Yes
Odometer	_____	_____ 6	_____	_____
Automatic Gear Position	_____	Also see FMVSS 102	_____	Yes
Low Tire Pressure Telltale (that does not identify which tire has low pressure)	Yellow	Low Tire. Also see FMVSS 138		_____
Low Tire Pressure Telltale (that identifies which tire has low pressure)	Yellow	Low Tire. Also see FMVSS 138		_____

3. Red can be red-orange. Blue can be blue-green.
6. If the odometer indicates kilometers, then "KILOMETERS" or "km" shall appear, otherwise, no identification is required.
7. If the speedometer is graduated in miles per hour and in kilometers per hour, the identifying words or abbreviations shall be "MPH and km/h" in any combination of upper or lower case letters.
8. In the case where a single telltale indicates more than one brake system condition, the word for Brake System shall be used.

[43 FR 27542, June 26, 1978, as amended at 44 FR 55583, Sept. 27, 1979; 45 FR 71804, Oct. 30, 1980; 47 FR 2998, Jan. 21, 1982; 49 FR 30196, July 27, 1984; 50 FR 23431, June 4, 1985; 52 FR 3247, Feb. 3, 1987; 52 FR 7157, Mar. 9, 1987; 52 FR 19874, May 28, 1987; 52 FR 33417, Sept. 3, 1987; 56 FR 51848, Oct. 16, 1991; 60 FR 63977, Dec. 13, 1995; 62 FR 32542, 32543, June 16, 1997; 63 FR 28926, May 27, 1998; 63 FR 50997, Sept. 24, 1998; 65 FR 30916, May 15, 2000; 65 FR 30916, May 15, 2000; 67 FR 38743, June 5, 2002]